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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,181	02/13/2002	Shane Clifford	303.759US1	7264

21186 7590 06/07/2006

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EXAMINER	
YIGDALL, MICHAEL J	

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/075,181	CLIFFORD, SHANE	
	Examiner	Art Unit	
	Michael J. Yigdall	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2006 and 16 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-7 and 9-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-7 and 9-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 30, 2006 has been entered. Claims 1-3, 5-7 and 9-51 are now pending.

Response to Arguments

2. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection. Applicant's amendment necessitated the new ground(s) of rejection.

Response to Amendment

3. The objection to claim 12, as set forth in the final Office action mailed on September 29, 2005, is withdrawn in view of Applicant's amendment.

Drawings

4. The replacement drawing sheets filed on January 30, 2006 are acceptable. The objection set forth in the Office action mailed on February 10, 2005 is withdrawn.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claim 44 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claim 44 (currently amended), the claim is directed to a "data signal representing computer instructions." Such signals do not fall within any category of statutory subject matter, and thus the claim is directed to non-statutory subject matter. See *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility* (1300 OG 142), Annex IV.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,851,107 to Coad et al. (art of record, "Coad") in view of U.S. Patent No. 6,591,152 to Takano (now made of record, "Takano") in view of U.S. Patent No. 6,179,490 to Pruitt (art of record, "Pruitt").

With respect to claim 1 (currently amended), Coad discloses a computerized method for utilizing a feature diagram in the creation of a potential statechart (see, for example, column 4, lines 38-45, which shows developing software by creating corresponding graphical representations of the source code, and column 17, lines 16-22 and 37-42, which shows that the

graphical representations include statecharts and component diagrams, i.e. feature diagrams), comprising:

(a) adding a state to the potential statechart for each state-type feature added to the feature diagram (see, for example, column 4, line 61 to column 5, line 3, which shows updating the graphical representations when changes are made to the code, and FIG. 16, which shows states that are added to the statechart).

Although Coad discloses that the feature diagram models a real-time control system (see, for example, column 1, lines 47-52), Coad does not expressly disclose that the feature diagram models a system for controlling semiconductor equipment used to process a Lot of semiconductor wafers.

However, Takano discloses modeling a system (see, for example, the abstract), including a system for controlling semiconductor equipment used to process a Lot of semiconductor wafers (see, for example, column 8, lines 2-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Coad to a system for controlling semiconductor equipment used to process a Lot of semiconductor wafers, such as suggested by Takano.

Although Coad discloses that the statecharts illustrate states and transitions (see, for example, column 17, lines 16-22), including decision states (see, for example, FIG. 17 and column 17, lines 25-32), Coad in view of Takano does not expressly disclose:

(b) for each added state-type feature that is an optional feature, adding a decision state to the potential statechart that has a guarded transition to the added state and adding an else transition;

(c) for each alternate relationship to be added to the feature diagram, adding a decision state to the potential statechart and adding a guarded transition from the added decision state to each of the states in the alternate relationship, wherein an else transition is added to the added decision state if the features in the alternate relationship are optional; and

(d) for each or-relationship to be added to the feature diagram, adding a decision state to the potential statechart for each state in the or-relationship, wherein each added decision state has a guarded transition to one of the states in the or-relationship, and each decision state has an else transition.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the appropriate states to the statechart of Coad in a manner so as to reflect the desired relationships.

Moreover, Pruitt discloses an analogous method for creating a flowchart to represent and create a program (see, for example, column 1, lines 8-15). Programs created in this manner are "structured" so as to improve the quality of the program (see, for example, column 2, lines 1-5).

Pruitt further discloses elements of the flowcharts, such as "if-then" and "if-then-else" blocks for "optional" and "alternate" relationships (see, for example, FIGS. 2D and 2E), as in parts (b) and (c) above, and "case" blocks for "or" relationships (see, for example, FIG. 2F), as in part (d) above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to supplement the method of Coad and Takano with such features as taught by Pruitt, so as to create programs that are structured and therefore of improved quality.

With respect to claim 2 (previously presented), the rejection of claim 1 is incorporated, and Coad also discloses the limitation wherein the potential statechart conforms to the Unified Modeling Language (see, for example, column 15, lines 50-54).

With respect to claim 3 (previously presented), the rejection of claim 1 is incorporated, and Coad also discloses the limitation wherein the feature diagram models a real-time control systems (see, for example, column 1, lines 47-52).

With respect to claim 5 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 1 (see the rejection of claim 1 above). Coad also discloses:

(e) adding transitions to the potential statechart, wherein the transitions are transitions that are triggered by a signal or stimulus (see, for example, column 17, lines 16-22, which shows transitions caused by stimuli).

With respect to claim 6 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 2 (see the rejection of claim 2 above).

With respect to claim 7 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 3 (see the rejection of claim 3 above).

9. Claims 9-12, 14, 15, 17-20, 22, 23, 25, 26, 28, 29, 31, 32, 34, 36-38, 40, 41 and 43-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coad in view of U.S. Patent No. 5,825,651 to Gupta et al. (now made of record, "Gupta").

With respect to claim 9 (currently amended), Coad discloses a computerized method (see, for example, the abstract), comprising:

(a) creating a feature diagram and a corresponding potential statechart (see, for example, column 4, lines 38-45, which shows developing software by creating corresponding graphical representations of the source code, and column 17, lines 16-22 and 37-42, which shows that the graphical representations include statecharts and component diagrams, i.e. feature diagrams);

(b) modifying the feature diagram (see, for example, column 4, line 61 to column 5, line 3, which shows changing a graphical representation of the code)..

Coad does not expressly disclose selecting one or more features from a universe of predefined features.

However, Gupta discloses configuring a system (see, for example, column 4, lines 31-32), including selecting one or more features from a universe of predefined features (see, for example, column 8, lines 12-27), so as to ensure compatibility among features and that the system is valid (see, for example, column 5, line 63 to column 6, line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to supplement the method of Coad with feature selections such as taught by Gupta, so as to ensure that the modifications to the feature diagram are valid.

Coad also discloses:

(c) making modifications to the potential statechart that correspond to the modifications of the feature diagram to produce a deterministic statechart (see, for example, column 4, line 61 to column 5, line 3, which shows updating the graphical representations when changes are made

to the code, and column 17, lines 25-32, which shows an activity diagram, i.e. a deterministic statechart).

With respect to claim 10 (previously presented), the rejection of claim 9 is incorporated, and Coad also discloses the limitation wherein the potential statechart conforms to the Unified Modeling Language (see, for example, column 15, lines 50-54).

With respect to claim 11 (previously presented), the rejection of claim 9 is incorporated, and Coad also discloses the limitation wherein the deterministic statechart conforms to the Unified Modeling Language (see, for example, column 15, lines 50-54).

With respect to claim 12 (currently amended), the rejection of claim 9 is incorporated, and Coad also discloses the limitation wherein the feature diagram models a real-time control system (see, for example, column 1, lines 47-52).

With respect to claim 14 (previously presented), the rejection of claim 9 is incorporated, and Coad also discloses the limitation wherein computer-executable code is generated as a function of the deterministic statechart (see, for example, column 5, lines 10-13).

With respect to claim 15 (previously presented), the rejection of claim 9 is incorporated, and Coad also discloses the limitation wherein computer-executable code for a real-time control system is generated as a function of the deterministic statechart (see, for example, column 5, lines 10-13, and column 1, lines 47-52).

With respect to claim 17 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 9 (see the rejection of claim 9 above). Coad also discloses:

(d) generating computer-executable code from the deterministic statechart (see, for example, column 5, lines 10-13).

With respect to claim 18 (original), the limitations recited in the claim correspond to the limitations recited in claim 10 (see the rejection of claim 10 above).

With respect to claim 19 (original), the limitations recited in the claim correspond to the limitations recited in claim 11 (see the rejection of claim 11 above).

With respect to claim 20 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 12 (see the rejection of claim 12 above).

With respect to claim 22 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 14 (see the rejection of claim 14 above).

With respect to claim 23 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 15 (see the rejection of claim 15 above).

With respect to claim 25 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 17 (see the rejection of claim 17 above).

With respect to claim 26 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 15 (see the rejection of claim 15 above).

With respect to claim 28 (original), the limitations recited in the claim correspond to the limitations recited in claim 11 (see the rejection of claim 11 above).

With respect to claim 29 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 12 (see the rejection of claim 12 above).

With respect to claim 31 (currently amended), Coad discloses a system useful for generating computer-executable code (see, for example, column 5, lines 10-13), comprising:

(a) a repository having stored feature diagrams and corresponding potential statecharts (see, for example, column 4, lines 38-45, which shows developing software by creating corresponding graphical representations of the source code, and column 17, lines 16-22 and 37-42, which shows that the graphical representations include statecharts and component diagrams, i.e. feature diagrams; also see, for example, column 15, lines 61-64, which shows using existing code, i.e. stored code); and

(b) an editor capable of making modifications to the stored feature diagrams and capable of making modifications to the potential statecharts that correspond to modifications made to the stored feature diagrams (see, for example, column 4, line 61 to column 5, line 3, which shows changing a graphical representation of the code and updating the graphical representations when changes are made to the code).

Coad does not expressly disclose that the editor is adapted to allow selection of one or more features to be included in a statechart from a universe of predefined features.

However, Gupta discloses configuring a system (see, for example, column 4, lines 31-32), including an editor that allows selection one or more features from a universe of predefined

features (see, for example, column 8, lines 12-27), so as to ensure compatibility among features and that the system is valid (see, for example, column 5, line 63 to column 6, line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to supplement the system of Coad with feature selections such as taught by Gupta, so as to ensure that the modifications to the statechart are valid.

With respect to claim 32 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 12 (see the rejection of claim 12 above).

With respect to claim 34 (original), the limitations recited in the claim correspond to the limitations recited in claim 12 (see the rejection of claim 12 above).

With respect to claim 36 (original), the limitations recited in the claim correspond to the limitations recited in claim 10 (see the rejection of claim 10 above).

With respect to claim 37 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 31 (see the rejection of claim 31 above). Coad also discloses:

(d) a code generator for generating computer-executable code from deterministic statecharts (see, for example, column 5, lines 10-13).

With respect to claim 38 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 15 (see the rejection of claim 15 above).

With respect to claim 40 (original), the limitations recited in the claim correspond to the limitations recited in claims 10 and 11 (see the rejection of claims 10 and 11 above).

With respect to claim 41 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 12 (see the rejection of claim 12 above).

With respect to claim 43 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 9 (see the rejection of claim 9 above).

With respect to claim 44 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 9 (see the rejection of claim 9 above).

With respect to claim 45 (currently amended), the limitations recited in the claim correspond to the limitations recited in claim 9 (see the rejection of claim 9 above).

With respect to claim 46 (new), the rejection of claim 9 is incorporated, and Gupta further discloses the limitation wherein the universe of predefined features includes one or more required features (see, for example, column 6, lines 32-37, which shows an "includes" relation among the features).

With respect to claim 47 (new), the rejection of claim 9 is incorporated, and Gupta further discloses the limitation wherein the universe of predefined features includes two or more mutually exclusive features (see, for example, column 6, lines 37-43, which shows a "can't work with" or "excluded" relation among the features).

With respect to claim 48 (new), the rejection of claim 9 is incorporated, and Gupta further discloses the limitation wherein the universe of predefined features includes a group of two or more features, at least one of which must be included in the feature diagram (see, for example, column 6, lines 50-59, which shows a "requires choice" relation among the features).

With respect to claim 49 (new), the limitations recited in the claim correspond to the limitations recited in claim 46 (see the rejection of claim 46 above).

With respect to claim 50 (new), the limitations recited in the claim correspond to the limitations recited in claim 47 (see the rejection of claim 47 above).

With respect to claim 51 (new), the limitations recited in the claim correspond to the limitations recited in claim 48 (see the rejection of claim 48 above).

10. Claims 13, 16, 21, 24, 27, 30, 33, 35, 39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coad in view of Gupta, as applied to claims 9, 17, 25, 31 and 37 above, respectively, and further in view of Takano.

With respect to claim 13 (previously presented), the rejection of claim 9 is incorporated. Although Coad discloses that the feature diagram models a system for controlling a real-time system (see, for example, column 1, lines 47-52), Coad in view of Gupta does not expressly disclose the limitation wherein the feature diagram models a system for controlling semiconductor equipment.

However, Takano discloses modeling a system (see, for example, the abstract), including a system for controlling semiconductor equipment (see, for example, column 8, lines 2-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Coad and Gupta to a system for controlling semiconductor equipment, such as suggested by Takano.

With respect to claim 16 (previously presented), the rejection of claim 9 is incorporated. Although Coad discloses that computer-executable code for a system for controlling a real-time system is generated as a function of the deterministic statechart (see, for example, column 5, lines 10-13, and column 1, lines 47-52), Coad in view of Gupta does not expressly disclose the limitation wherein computer-executable code for a system for controlling semiconductor equipment is generated as a function of the deterministic statechart.

However, Takano discloses generating a program for a system (see, for example, the abstract), including a system for controlling semiconductor equipment (see, for example, column 8, lines 2-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Coad and Gupta to a system for controlling semiconductor equipment, such as suggested by Takano.

With respect to claim 21 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 13 (see the rejection of claim 13 above).

With respect to claim 24 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 16 (see the rejection of claim 16 above).

With respect to claim 27 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 16 (see the rejection of claim 16 above).

With respect to claim 30 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 13 (see the rejection of claim 13 above).

With respect to claim 33 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 13 (see the rejection of claim 13 above).

With respect to claim 35 (original), the limitations recited in the claim correspond to the limitations recited in claim 13 (see the rejection of claim 13 above).

With respect to claim 39 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 16 (see the rejection of claim 16 above).

With respect to claim 42 (previously presented), the limitations recited in the claim correspond to the limitations recited in claim 13 (see the rejection of claim 13 above).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Yigdall whose telephone number is (571) 272-3707. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MY

Michael J. Yigdall
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